## Work Order ID 97823 -

February-27-13 1:21:15 PM

Item ID:

646.3411

Revision ID:

Item Name:

Required Date: 3/13/13

RH Wiper Deflector

Start Date:

2/27/13

QC:

Start Qty: 20.00

Req'd Qty: 20.00

\*20\* \*20\*

\*97823\* Accept

\*N900040100\*

Setup Start

Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan: MLJ

Date:

Date: 13-02-27 Tooling:

SPC (Y/N):

Date: Date: Run

Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool#	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp	
Draw Nbr	Revision Nbr					×.0	~9	2 dele	Stamp	
646.3400	N/C									
*100*	BAND SAW	0.00						-1-1-4-141	DAS	17.
Bandsaw	Memo	0.00				6			2.89	
Jeaspa Bandsaw	Cut Blank at 7.125"									

110

\*110\* HAAS 1

HAAS CNC vertical machine #1

HAAS CNC VERTICAL MACHINING #1

Memo 1-Machine per folio FB151 DWG REV: N C

FOLIO REV: AA

0.00

0.00

Da 13/03/15

2- deburr and break all sharp edges

NCR: Y	es / No				WORK ORDER NON-	COI	NFORN	ANCE / UP	DATE					*
G.ORESEWAY. W	100-04 M MUSEU				The state of the s						QA Closed:	D	ate:	
Work Orde	er:				DISPOSITION				AGAINST D	DEP	ARTMENT/	PROCESS		7.1
Part N	lo.			2	Rework Scrap Use-as-is Work Order Update		Therm	Skid-tube  Machining  noforming  Large Fab	Crosstube Small Fab Finishing Composite			Water Je d. Eng. Coor e/Packaging Supplie		Engineering  Quality  Other
Root Cause	Date	Step	Qty		ption of work order update or Non-conformance		Initial nief Eng		tion ription		Sign & Date	Verificati	on	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved					4									
20 20						FAUI	LT CATE	SORY						
Landir 80	Cracks Crushed Cuffs Heat Tre	Not Conce I/Crimped eat on Strip ir		D/S	General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes		-	on Incomplete ions Incomplete/I nance led	Unclear		Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V Power Loss/	ct ssing Vrong		Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
	Torque	Waves in	Extrusion	1	Drawing		Out of C	Calibration						

Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

February-27-13 1:21:15 PM

\*97823\*

Page 2

Item ID: 646.3411 Accept \*N900040100\* Setup Start Revision ID: RH Wiper Deflector Item Name: \*NS2\* \*20\* Start Date: 2/27/13 Start Qty: 20.00 Cust Item ID: Required Date: 3/13/13 Reg'd Qty: 20.00 \*20\* Customer: Reference: Run Start Approvals: Process Plan: Date: Tooling: Date: Stop QC: Date: SPC (Y/N): Date: Sequence ID/ Operation Set Up/ Tool ID Tool # Plan Accept Reject Reject Insp. Work Center ID Description **Run Hours** Code Qty Number Stamp Qty 120 QC2- Inspect parts off machine FAI/FAIB 0.00 DAS b.a 13/03/15 9-89 \*120\* QC 0.00 Memo Quality Control DAS 13/03/18 130 QC8- Inspect parts - second check 0.00 \*130\* QC 0.00 Memo Quality Control 131 0.00 6 7613.3.20 \*131\* HandFinish 0.00 Memo Hand Finishing CLEAN AND REMOVE ALL PART MARKING

									DQA:	Date:	
NCR: Y	es / No			W	ORK ORDER NON-	CONFORM	MANCE / UPI	DATE			7
									QA Closed:	Date:	
Work Orda					DISPOSITION			AGAINST DE	PARTMENT	/PROCESS	
Work Orde					Rework	1	Skid-tube	Crosstube	1	Water Jet	Engineering
Part N	No.				Scrap	1	Machining	Small Fab	Pro	d. Eng. Coor.	Quality
					Use-as-is	Thern	noforming	Finishing	Rec/Stor	re/Packaging	Other
NCR N	10				Work Order Update		Large Fab	Composite		Supplier	
Root		T		Description	n of work order update	Initial	Act	ion	Sign &		
Cause	Date	Step	Qty	or N	on-conformance	Chief Eng	Descr	ription	Date	Verification	QC Inspector
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
					F	AULT CATE	GORY				
Landir	ng Gear			_	General	_ 5		_	-		1
	Bending			Ber	nd	Grain			Ovalized		Pressure/Forced
	Centre N	ot Conce	ntric to O	/s BO	M/Route	Hardwa	ire		Over/Under	tolerance	Temperature/Cure
	Cracks			Bro	oken/Damaged	Inspect	ion Incomplete		Part Incorre	ct	Weld
	Crushed,	/Crimped		Bur	rrs	Instruct	tions Incomplete/U	Jnclear	Part Lost/M	issing	Wrong Stock Pulled
	Cuffs			Cor	ntamination	Mainte	enance		Part Moved		
	Heat Tre	at		Co	untersink	Mislabe	eled		Positioned V	Wrong	_
	Inspectio	n Strip in	Tube	Cut	Too Short	Misrea	d		Power Loss/	Surge	Other
1	Ripples i	n Bend		Dri	Il Holes	Offset					

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

February-27-13 1:21:15 PM

Item ID:

646.3411

2/27/13

Accept

\*N900040100\*

Setup Start

Revision ID:

Start Date:

Item Name:

Required Date: 3/13/13

RH Wiper Deflector

\*20\*

Cust Item ID:

Customer:

Tool ID

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

Reject

Number

QC:

Date:

SPC (Y/N):

Set Up/

Run Hours

Date:

Tool#

Plan

Code

Stop

CX 13/03/21

Reject

Qty

Insp.

Stamp

Sequence ID/ Work Center ID 140

\*140\*

Outsource4

Outsource process - Anodize

Operation Description

Start Qty: 20.00

Reg'd Qty: 20.00

Outsource process-Anodize per QSI017 4.1.10.1

0.00

0.00

Issue P/O:

Black Anodize as per Dwg 646.3400

150

\*150\*

Packaging

Packaging

Receive & Inspect for Damage & Mat'l Certs

Memo

Memo

Memo

0.00

0.00

Accept

Qty

155

\*155\*

Quality Control

QC5- Inspect part completeness to step on W/O

											DQA:	Da	te:	
NCR:	res / No				WORK ORDER NON-	COI	VFORN	MANCE / UPD	ATE		QA Closed:	Da	te:	×
					DISPOSITION				AGAINST [	_	PARTMENT/		ic.	
Work Orde Part N	No				Rework Scrap Use-as-is Work Order Update		Therm	Skid-tube  Machining noforming  Large Fab	Crosstube Small Fab Finishing Composite			Water Jet d. Eng. Coor. e/Packaging Supplier		Engineering Quality Other
Root Cause	Date	Step	Qty		ption of work order update or Non-conformance		Initial nief Eng	Actio Descrip			Sign & Date	Verificatio	n	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved													28.	
						AUL	T CATE	GORY						
Landi	Cracks Crushe Cuffs Heat T	Not Conce d/Crimped reat		0/5	General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink		Instruct Mainte Mislabe	on Incomplete ions Incomplete/Ui nance led	nclear		Ovalized Over/Under Part Incorrec Part Lost/Mi Part Moved Positioned V	ct ssing Vrong		Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
	Inspec	tion Strip in	Tube	1	Cut Too Short		Misread	L	1		Power Loss/	Surge		Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drill Holes

Drawing

Finish Folio

## Work Order ID 97823

February-27-13 1:21:15 PM

\*97823\*

Page 4

Insp.

Stamp

Item ID: 646.3411 Accept \*N900040100\* Setup Start Revision ID: RH Wiper Deflector Item Name: \*NS2\* Start Date: 2/27/13 Start Qty: 20.00 Cust Item ID: Required Date: 3/13/13 Reg'd Qty: 20.00 Customer: Reference: Run Start Approvals: Process Plan: Date: Tooling: Date: Stop QC: Date: SPC (Y/N): Date: Sequence ID/ Operation Set Up/ Tool ID Tool # Plan Reject Accept Reject Work Center ID Description Run Hours Qty Number Code Qty 160 Spray Painting per QSI005 4.2 0.00 \*160\* **SprayPaint** 0.00 Memo Spray Painting PRIME AS PER DWG, SEE NOTE #2 PRIMER BATCH: 125243 170 QC14- Inspect Spray Paint \*170\* QC Memo Quality Control

180

\*180\* Packaging

Packaging

Identify as per dwg & Stock Location: 57537

Memo

0.00

\*\*\*IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV\*\*\*

a 6x M.D. 13-05-30

NCR:	Yes	/ No				WORK ORDER NON-	CON	<b>IFORM</b>	MANCE / UPI	DATE			•
											QA Closed:	Date:	
Work Orde	er:					DISPOSITION				AGAINST DE	PARTMENT,		
Part I	•					Rework Scrap Use-as-is Work Order Update		Thern	Skid-tube  Machining  noforming  Large Fab	Crosstube Small Fab Finishing Composite	-	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root						ption of work order update	10000	nitial	Act		Sign &	1175 P.	\$6000 VI 10000000
Cause		Date	Step	Qty	(	or Non-conformance	Ch	ief Eng	Descr	iption	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved													
						F	AUL	T CATE	GORY				···
Landi	ng G	Gear			U.A.	General					1		1 22 2
		Bending Centre No Cracks Crushed/ Cuffs Heat Trea Inspection Ripples in Torque W	Crimped at a Strip in Bend Vaves in E	Tube		Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes Drawing		Instruct Mainte Mislabe Misread Offset Out of 0	on Incomplete ions Incomplete/Unance eled d Calibration	Jnclear	Ovalized Over/Under Part Incorre Part Lost/M Part Moved Positioned V Power Loss/	ct sissing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
	1 1	Turning S	equence			Finish		Out of S	Sequence				

Outside Dimensions

DQA:

Date:

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Turning Sequence

Wave/Twist in Tube

Finish

Page 5

February-27-13 1:21:15 PM Item ID: 646.3411 Accept \*N900040100\* Setup Start Revision ID: Item Name: RH Wiper Deflector Start Date: 2/27/13 Start Qty: 20.00 Cust Item ID: Required Date: 3/13/13 Req'd Qty: 20.00 Customer: Reference: Run Start Approvals: Process Plan: Date: Tooling: Date: Stop QC: Date: SPC (Y/N): Date: Sequence ID/ Operation Set Up/ Tool ID Tool # Plan Accept Reject Reject Insp. Work Center ID Description Run Hours Code Qty Qty Number Stamp 190 QC21- Final Inspection - Work Order Release 0.00 \*190\* 0.00 Memo Quality Control

NCR:	Yes /	No				WORK ORDER NON-	CON	NFORN	IANCE / UPI	DATE				
											QA Closed:	Dat	te:	_
SECTION TWO SECTION						DISPOSITION				AGAINST D	EPARTMENT	/PROCESS		
Work Orde	er:					Rework		3	Skid-tube	Crosstube		Water Jet	Engineering	
Part N	No					Scrap Use-as-is	-		Machining oforming	Small Fab Finishing		d. Eng. Coor. re/Packaging	Quality Other	-
NCR I	No					Work Order Update		Victoria de la composição de la composiç	Large Fab	Composite		Supplier	_	
Root Cause		Date	Step	Qty		otion of work order update		nitial iief Eng	Act Descr	ion iption	Sign & Date	Verification	n QC Inspecto	or
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved														
Landi	ng Gea					General	AUL	T CATE	JONT					
Lanui		nding				Bend		Grain		Г	Ovalized	Ī	Pressure/Forced	i
	$\vdash$	200	Concer	ntric to C	0/5	BOM/Route		Hardwai	re		Over/Under	tolerance	Temperature/Cu	ure
	-	icks				Broken/Damaged		1	on Incomplete		Part Incorre	ct	Weld	
	$\vdash$	ished/Ci	rimped			Burrs		THE COURT AND DESIGNATION OF THE PARTY OF TH	ons Incomplete/L	Inclear	Part Lost/M	issing	Wrong Stock Pul	lled
:	Cu		Apple Bear Re			Contamination		Mainte	V5 135		Part Moved	18 0		
	$\vdash$	at Treat				Countersink		Mislabe	led		Positioned \	Wrong		
	$\vdash$	pection		Tube		Cut Too Short		Misread			Power Loss,	'Surge	Other	
	$\vdash$	ples in E				Drill Holes		Offset	740	_		699		
	$\vdash$			vtrusion		Drawing		Out of C	alibration		3			

Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Parent Item:

646.3411

Parent Item Name: RH Wiper Deflector

\*97823\*

\*646 3411\*

Location

Start Date: 2/27/13

Required Date: 3/13/13

Start Qty: 20.00

Required Qty: 20.00

Comments:

IPP REV:A NEW ISSUE 13/02/21 JFS VERIFY BY: JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M7075T6B4.000X03.00		Purchased	No			100	f	8.0000	0.594	12.50526			

\*M7075T6B4 000X03 000\*

Loc Qty

Loc Code

MAT001

123555

\*\*

DL 13-3-13

										DQA:	Da	te:	
NCR:	'es / N	lo			WORK ORDER NON-	100	NFORM	ANCE / UPDAT					•
						_				QA Closed:	Da	te:	
Work Orde					DISPOSITION				AGAINST DE	PARTMENT	PROCESS		
WORK OTGE					Rework	]		Skid-tube C	Crosstube		Water Jet		Engineering
Part N	۱o				Scrap				Small Fab		d. Eng. Coor.		Quality
NCDA	la.				Use-as-is Work Order Update	-	20000000000000000000000000000000000000	THE RESPONSIBLE TO	Finishing omposite	Rec/Stor	e/Packaging Supplier	$\overline{}$	Other
NCR N	NO				Work Order opdate	7		Large rab cc	omposite		Supplier		
Root				Descri	ption of work order update		Initial	Action		Sign &	2.0 4294 100		
Cause	Da	e Step	Qty	(	or Non-conformance	Ch	nief Eng	Description	on	Date	Verificatio	n	QC Inspector
Doc/Data													
Equip/Tooling													
Operator				L			1						
Material													
Setup						1							
Other													
Process		1											
Supplier													
Training													
Unapproved													
				Y .	F	AUI	LT CATE	GORY					
Landi	ng Gear				General							,	
	Bend	ng			Bend		Grain			Ovalized			Pressure/Forced
	Centi	e Not Conc	entric to	0/5	BOM/Route		Hardwa	re		Over/Under	tolerance		Temperature/Cure
	Crack	S			Broken/Damaged		Inspecti	on Incomplete		Part Incorre	ct		Weld
	Crush	ed/Crimpe	d		Burrs		Instruct	ions Incomplete/Uncle	ear	Part Lost/M	ssing		Wrong Stock Pulled
	Cuffs				Contamination		Mainte	nance		Part Moved			
	Heat	Treat			Countersink		Mislabe	led		Positioned V	Vrong		
	Inspe	ction Strip	in Tube		Cut Too Short		Misread	i		Power Loss/	Surge		Other
		es in Bend			Drill Holes		Offset						

Out of Calibration

Out of Sequence

Outside Dimensions

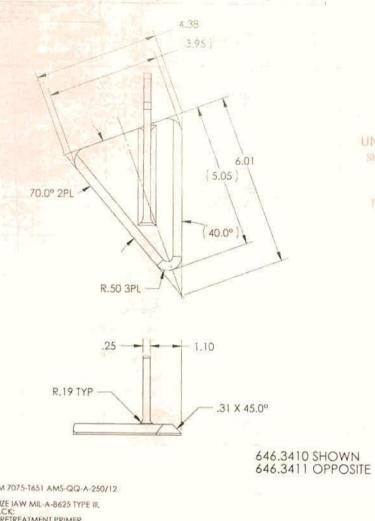
Turning Sequence

Wave/Twist in Tube

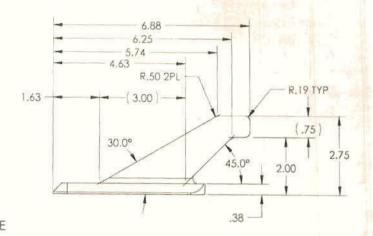
Torque Waves in Extrusion

Drawing

Finish



SHOP COPY RETURN TO UNCONTROLLED COPY WORK ORDER NO. 97823 MC5 13-02-27



646.3411 RH WIPER DEFLECTOR 646.3410 H WIPER DEFLECTOR FIND # PART # DESCRIPTION CHY APICAL INDUSTRIES NEXT ASSY ISI 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 | 760(724-5300) 646,4000 WIPER DEFLECTOR 646.3400

NOTES:

MATERIAL: ALUMINUM 7075-T651 AMS-QQ-A-250/12

FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III.
CLASS 2. COLOR BLACK:
CARDINAL 4860-50 PRETREATMENT PRIMER
PRIME IAW MIL-P-23377 J TYPE I CLASS N

- 3. DEBURR AND BREAK ALL SHARP EDGES
- 4. IDENTIFY IAW MPP-120

									DQA:	Date:	
NCR: Y	res / N	O			WORK ORDER NON-	CONFORM	MANCE / UP	DATE			
LOT-SHAW .	easo M no-						337		QA Closed:	Date:	
Work Orde	ar:				DISPOSITION			AGAINST DE	PARTMENT	/PROCESS	
Part N	No				Rework Scrap Use-as-is Work Order Update	Thern	Skid-tube  Machining noforming Large Fab	Crosstube Small Fab Finishing Composite		Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root Cause	Dat	Step	Qty		tion of work order update r Non-conformance	Initial Chief Eng		tion ription	Sign & Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved											
						AULT CATE	GORY				
Landii	Bendi Centre	ng Not Conce	ntric to	-	General Bend BOM/Route	Grain Hardwa	re		Ovalized Over/Under	tolerance	Pressure/Forced Temperature/Cure

Inspection Incomplete

Maintenance

Out of Calibration

Out of Sequence

Outside Dimensions

Mislabeled

Misread

Offset

Instructions Incomplete/Unclear

Broken/Damaged

Contamination

Countersink

Cut Too Short

Drill Holes

Drawing

Finish Folio

Burrs

Weld

Other

Wrong Stock Pulled

Part Incorrect

Part Moved

Part Lost/Missing

Positioned Wrong

Power Loss/Surge

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Cracks

Cuffs

Heat Treat

Crushed/Crimped

Inspection Strip in Tube

Torque Waves in Extrusion

DART AEROSPACE LTD	Work Order:	97823
Description: RH WIPER DEFLECTOR	Part Number:	646.3411
Inspection Dwg: 646.3400 Rev: NC		Page 1 of 1

## FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
3. 95	+/030	3.950			Vern	6A-01
5.05	+/030	5.049			- n	ii.
40.0°	+150	400			Angle prote	PHD-06
70.00	+/50	700			9, 1	ii.
RO.50	+ 1036	R 0.500			R-6	ref.
0.25	+1030	0.249			Vein	6A-01
1.10	+/030	1.100			H-6	31006
0.31 x 45°	+/030	0.304 x45°			Vero	6A-01
Ro. 19	+/030	Ro. 188			R-6	cef.
6.88	+1030	6.875			H-6	31006
Ro.50	+1030	Ro.500			R-6	ref.
30.0°	+150	30.0°		S	Angle prote	PHD-06
45.0°	+/50	45.00			0,,	0
0.38	+/030	0.375			Mic	6A-03
2.00	+1030	2.000	101		14-6	31006
2.75	+1030	2.750			fi	11
0.75	+1030	6.748			Ven	6A-01
BO.19	+1030	RO.188		49-10	R-6	ref.
		Di-				
	EMEN'S					
	A PROPERTY AND A SECOND	- 100		FIRE		
			164 _ 6			
		The same	OAS			5. 25.

Measured by: 5 AS Audited by: 14 Preliminary Approval:

Date: 13 03 15 9-69 Date: 13/03/18 Date:

Rev		Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

\$ 10.04.15



A.T.G. Industries Inc. 731, rue Industrielle Rd. PLATING DEPARTMENT Rockland, On K4K 1T2 Canada

Ph: (613) 446-4544 Fax: (613) 446-4556

## Pack List

Number: 62289

Date: 28-Mar-13

To

DART AEROSPACE LTD 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7 Canada Ship To

DART AEROSPACE LTD 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7 Canada

Fax: 613-632-1185		Ph: 613-632-5	200 Fax: 613-632	Fax: 613-632-1185	
Terms	Ship \	/ia		Vi Vi V	
Quantity	Description				
loi	Part: ASST 8 PCS 646.3010	Rev:	- x - X		
	8 PCS 646.3011 10 PCS 646.3110 20 PCS 646.3310 20 PCS 646.3311				
¢	7 PCS 646.3410 6 PCS 646.3411 20 PCS 646.3810 21 PCS 646.3812 6 PCS 647.1912				
	3 PCS 647.1912 2 PCS 647.1915 5 PCS 647.2201				
	HARD ANODIZE BLACK MIL-A-8625 TYPE III CLASS 2 Job: 20130184 PO: 1		ine:	2	
	A.T.G. Industries certifies that all items in this shift with all requirements, specifications and drawings	oment are in conformance	order.	64	
	ISO 9001 : 2008 REGISTERED ATG SALES-2010 TERMS APP	PLY			
	CERTIFIED SIGNATURE :				
	RECEIVER SIGNATURE :				
į.					